

# Vapor Pressure Data for a Number of Common Gases

**ET-Cryogenics**

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S	Compound	Data Temp. Range °K	Temperatures (°K) for Vapor Pressure (torr)																
			10 <sup>-12</sup>	10 <sup>-11</sup>	10 <sup>-10</sup>	10 <sup>-9</sup>	10 <sup>-8</sup>	10 <sup>-7</sup>	10 <sup>-6</sup>	10 <sup>-5</sup>	10 <sup>-4</sup>	10 <sup>-3</sup>	10 <sup>-2</sup>	10 <sup>-1</sup>	1	10 <sup>1</sup>	10 <sup>2</sup>	10 <sup>3</sup>	
He	HELIUM	0.9 - 5.2													0.98	1.268	1.738	2.634	4 518
H <sub>2</sub>	HYDROGEN	14 - 21	2.67	2.83	3.01	3.21	3.45	3.71	4.03	4.40	4.84	5.38	6.05	6.90	8.03	9.55	11.70	15.10	21.4
Ne	NEON	15 - 45	5.50	5.79	6.11	6.47	6.88	7.34	7.87	8.48	9.19	10.05	11.05	12.30	13.85	15.80	18.45	22.10	27.5
CH <sub>4</sub>	METHANE	48 - 112	24.0	25.3	26.7	28.2	30.0	32.0	34.2	36.9	39.9	43.5	47.7	52.9	59.2	67.3	77.7	91.7	115.0
F <sub>2</sub>	FLUORINE	54 - 89													(55.2)	59.5	70.5	87.5	
N <sub>2</sub>	NITROGEN	54 - 128	16.1	19.0	20.0	21.1	22.3	23.7	25.2	27.0	29.0	31.4	34.1	37.5	41.5	47.0	54.0	63.4	80.0
CO	CARBON MONOXIDE	56 - 133	20.5	21.5	22.6	23.8	25.2	26.7	28.4	30.3	32.5	35.0	38.0	41.5	45.8	51.1	57.9	67.3	84.1
O <sub>2</sub>	OXYGEN	57 - 154	21.8	22.8	24.0	25.2	26.6	28.2	29.9	31.9	34.1	36.7	39.8	43.3	48.1	54.1	62.7	74.5	92.8
Kr	KRYPTON	63 - 121	27.9	29.4	30.9	32.7	34.6	36.8	39.3	42.2	45.5	49.4	53.9	59.4	66.3	74.8	85.9	101.0	123.5
NO	NITRIC OXIDE	73 - 180	37.7	39.4	41.3	43.4	45.6	48.1	50.9	54.0	57.6	61.6	66.3	71.7	78.1	85.7	95.0	106.5	123.5
Ar	ARGON	82 - 88	20.3	21.3	22.5	23.7	25.2	26.8	28.6	30.6	33.1	35.9	39.2	43.2	48.2	54.4	62.5	73.4	89.9
N <sub>2</sub> O	NITROUS OXIDE	103 - 186	55.8	58.3	61.1	64.2	67.6	71.3	75.5	80.3	85.7	91.9	99.0	107.5	117.5	129.5	144.0	162.5	189.5
CO <sub>2</sub>	CARBON DIOXIDE	107 - 196	59.5	62.2	65.2	68.4	72.1	76.1	80.6	85.7	91.5	98.1	106.0	114.5	125.0	137.5	153.5	173.0	198.0
Xe	XENON	110 - 166	38.5	40.5	42.7	45.1	47.7	50.8	54.2	58.2	62.7	68.1	74.4	82.1	91.5	103.5	118.5	139.5	170.0
HBr	HYDROGEN BROMIDE	120 - 205	51.8	54.3	57.1	60.2	63.7	67.6	72.1	77.1	82.9	89.6	97.5	107.0	118.5	132.5	151.0	175.0	209.0
HCl	HYDROGEN CHLORIDE	132 - 195	49.7	52.1	54.6	57.5	60.6	64.1	68.1	72.5	77.6	83.4	90.1	98.1	108.5	121.0	137.0	158.5	193.0
NH <sub>3</sub>	AMMONIA	145 - 240	70.9	74.1	77.6	81.5	85.8	90.6	95.9	102.0	108.5	116.5	125.5	136.0	148.0	163.0	181.0	206.0	245.0
H <sub>2</sub> S	HYDROGEN SULFIDE	153 - 213	57.1	59.8	62.7	65.9	69.5	73.5	78.0	83.1	89.0	95.7	103.5	113.5	124.5	138.5	156.5	180.5	218.0
CS <sub>2</sub>	CARBONYL SULFIDE	162 - 224													(124.5)	139.5	159.5	187.0	229.0
Cl <sub>2</sub>	CHLORINE	162 - 420	66.1	69.1	72.4	76.0	80.0	84.4	89.4	95.1	101.5	109.0	117.5	127.5	140.0	155.0	173.0	201.0	245.0
H <sub>2</sub> O	WATER	175 - 380	113.0	118.5	124.0	130.0	137.0	144.5	153.0	162.0	173.0	185.0	198.5	215.0	233.0	256.0	284.0	325.0	381.0
SO <sub>2</sub>	SULFUR DIOXIDE	178 - 263	78.9	82.4	86.3	90.4	95.1	100.0	106.0	112.5	119.5	128.0	137.5	148.5	161.5	177.0	195.5	225.0	269.0
CS <sub>2</sub>	CARBON DISULFIDE	194 - 319												(160.0)	177.5	199.5	228.0	269.0	329.0
HF	HYDROGEN FLUORIDE	240 - 290													(179.0)	207.0	245.0	301.0	
Br <sub>2</sub>	BROMINE	253 - 331	102.0	106.5	111.0	116.5	122.0	128.5	135.5	143.5	152.5	163.0	174.5	188.5	204.0	224.0	248.0	282.0	339.0
I <sub>2</sub>	IODINE	298 - 456	141.5	147.5	154.0	161.5	169.5	178.5	189.5	199.5	212.0	226.0	243.0	262.0	285.0	312.0	345.0	389.0	471.0

⊙ Melting Point    \ Transition Point